10/679,937

Art Unit:

3634

Examiner:

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 2 of 11

## **CLAIM AMENDMENTS**

| 1   | l (currently amended): A method of using a pull cord operatively connected to a                      |
|-----|--|
| 2   | rotatable shaft to reversibly rotate the shaft, the method comprising the steps:                     |
| 3   | (a) pulling a pull cord in a first direction, thereby rotating a first shaft in a                    |
| . 4 | selected direction and converting rotation of the first shaft into rotation of a second shaft in     |
| 5 · | a first direction;   |
| 6   | (b) retracting the pull cord; and  |
| 7   | (c) pulling the pull cord in a second direction, different from the first direction                  |
| 8   | of the pull cord, thereby rotating the first shaft in the selected direction and converting          |
| 9   | rotation of the first shaft into rotation of the second shaft in a second direction, opposite the    |
| 10  | first direction of the shaft.  |
|     |  |
| 1   | 2 (currently amended): A method of using a pull cord operatively connected to a                      |
| 2   | rotatable shaft having a load attached thereto to selectively rotate the shaft in opposite           |
| 3   | directions and thereby position the load, the method comprising the steps:                           |
| 4   | (a) pulling a pull cord in a direction selected from first and second, different                     |
| 5   | pull directions, thereby rotating a first shaft in a selected direction and converting rotation      |
| 6   | of the first shaft in the selected direction into rotation of a second shaft in a direction selected |
| 7   | from first and second, opposite directions of rotation, the first and second directions of           |
| 8   | rotation being selected by the first and second pull directions, respectively;                       |
| 9   | (b) returning the pull cord; and   |
| 10  | (c) repeating steps (a) and (b).   |

10/679,937

Art Unit:

3634

Examiner:

1

2

3

4

5

6.

7

8

9

10

11

12

1

2

3

4

5

6

7

8

9

10

11

12

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 3 of 11

3 (currently amended): A reversible pull cord mechanism, comprising:

first and second rotatable shafts;

<u>a</u> pull cord means operatively connected to the first shaft and to the second shaft and including a pull cord for rotating the first shaft in a selected direction when the pull cord is pulled;

means operatively connected to the pull cord means and responsive to pulling the pull cord in different directions for rotating the first shaft in a selected the selected direction; and

means operatively connected to the first shaft and to the second shaft and responsive to pulling the pull cord in two of said different directions for converting rotation of the first shaft in the selected direction into rotation of the second shaft in two opposite directions, respectively.

4 (currently amended): A reversible pull cord mechanism, comprising:

first and second rotatable shafts;

pull cord means including a pull cord and operatively connected to the first shaft for rotating the first shaft in a selected direction when the pull cord is pulled;

means for retracting the pull cord;

means for converting rotation of the first shaft in the selected direction into rotation of the second shaft, said converting means being settable in first and second conditions for converting rotation of the first shaft in the selected direction into rotation of the second shaft in first and second <u>different</u> directions, respectively; and

means responsive to pulling movement of the pull cord in first and second different directions for selectively setting the converting means in the first and second conditions, respectively, as the pull cord is pulled.

10/679,937

Art Unit:

3634

Examiner:

1

2

3

- 4

5

6

7

8

9

10

11

12

13

14

15

1

2

3

4

5

6

7

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 4 of 11

## 5 (currently amended): A reversible pull cord mechanism, comprising:

a retractable pull cord mechanism comprising: a first rotatable shaft; a pulley operatively connected to the first rotatable shaft for rotating the first rotatable shaft; pull cord means including a pull cord wrapped around the pulley for rotating the pulley and the first rotatable shaft when the pull cord is pulled away from the pulley; and means operatively connected to the first rotatable shaft for rewinding the pull cord when the pull cord is released;

a second rotatable shaft operatively connected to the first rotatable shaft for rotating the second rotatable shaft when the first rotatable shaft rotates;

shifting—means adapted for positioning in first and second positions for converting single direction rotation of the first rotatable shaft into rotation of the second rotatable shaft in first and second <u>different</u> directions; and

connecting means connecting the pull cord means to the shifting converting means for setting the shifting converting means in said first and second positions in response to the pull cord being pulled in first and second different directions.

6 (currently amended): A reversible rotation pull cord mechanism, comprising:

a retractable pull cord mechanism, comprising: a first rotatable shaft; a pulley operatively connected to the first rotatable shaft for rotating the first rotatable shaft; pull cord means, including a pull cord wrapped around the pulley for rotating the pulley and the first rotatable shaft when the pull cord is pulled away from the pulley; and rewind means operatively connected to the first rotatable shaft for rewinding the pull cord when the pull cord is released;

10/679,937

Art Unit:

Examiner:

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 5 of 11

a transmission including a second rotatable shaft operatively connected to the first rotatable shaft for rotating the second shaft when the first shaft rotates; the transmission further comprising shifting means adapted for being positioned in at least first and second positions for converting single direction rotation of the first rotatable shaft into rotation of the second rotatable shaft in first and second <u>different</u> directions; and

connecting means connecting the pull cord means to the shifting means for setting the transmission in said first and second positions in response to the pull cord being pulled in first and second <u>different</u> directions.

7 (currently amended): The reversible pull cord mechanism of claim 6, wherein:

the transmission comprises: a first gear operatively mounted on the first rotatable shaft for rotating therewith in a first direction; a second gear meshed with the first gear for rotating in a second direction, opposite the first direction; and a third, output gear; and wherein

the shifting means comprises fourth and fifth gears; a movable shaft mounting the fourth and fifth gears at spaced apart locations along said movable shaft with the fifth gear maintained meshed with the third, output gear; said movable shaft being mounted for arcuate movement between said first position, at which the fourth gear meshes with the first gear for rotating the fifth gear with the first gear and said second position, at which the fourth gear meshes with the second gear for rotating the fifth gear with the second gear; and wherein

said connecting means operatively connects the pull cord means—to said movable shaft for moving said movable shaft to the said first and second positions.

10/679,937

Art Unit:

Examiner:

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 6 of 11

8 (original): The reversible pull cord mechanism of claim 7, said connecting means further comprising: first spring means comprising a first arm or section mounted proximate the shifting means for rotating movement; a second arm or section mounted proximate one end to and extending from the first arm and mounted proximate a second end to the movable shaft of the shifting means for moving the movable shaft between and to said first and second positions upon rotation of the first arm; and a third arm mounted to and extending from the first arm for rotating the first arm, thereby pivoting the second arm and moving the movable shaft between and to said first and second positions.

9 (currently amended): The reversible rotation pull cord mechanism of claim 6, wherein

the transmission comprises: a first gear operatively mounted on the first rotatable shaft for rotating therewith in a first direction; a second gear meshed with the first gear for rotating in a second direction, opposite the first direction; and a third, output gear; and wherein

the shifting means of the transmission comprises fourth and fifth gears; a movable shaft mounting the fourth and fifth gears at spaced apart locations along said movable shaft with the fifth gear maintained meshed with the third, output gear; said movable shaft being mounted for arcuate movement among and to said first position, in which the fourth gear meshes with the first gear for rotating the fifth gear with the first gear, said second position, in which the fourth gear meshes with the second gear for rotating the fifth gear with the second gear, and a third, neutral position between said first and second positions at which the fourth gear is disengaged from the first and second gears; and wherein

10/679,937

Art Unit:

Examiner:

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 7 of 11

said connecting means operatively connects the pull cord means to said movable shaft for moving said movable shaft among and to said first, second and third positions.

10 (original): The reversible pull cord mechanism of claim 9, said connecting means further comprising:

first spring means comprising a first arm or section mounted proximate the shifting means for rotating movement; a second arm or section mounted proximate one end to and extending from the first arm and mounted proximate a second end to the movable shaft of the shifting means for moving the movable shaft among and to said three positions upon rotation of the first arm; and a third arm mounted to and extending from the first arm for rotating the first arm, thereby pivoting the second arm and moving the movable shaft among and to said three positions; and the third arm having an aperture therein receiving the pull cord in sliding engagement such that pulling the pull cord in first and second directions moves the movable shaft to said first and second positions; and

second spring means mounted proximate the first spring means and having a detent positioned such that when the pull cord is released, the detent releasably engages the first spring means and positions the first spring means in said neutral third position, and disengages from the first spring when the pull cord is pulled in the first or second direction.

- 11 (currently amended): A pull cord-operated retractable cover system, comprising:
- (1) a cover system comprising: a housing; a plurality of rotatable pulleys mounted on or to the housing; a cover; cords wound around the pulleys and connected to the cover for extending the cover from the housing and retracting the cover to the housing; and

10/679,937

Art Unit:

Examiner:

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 8 of 11

(2) a reversible pull cord mechanism, comprising:

(a) retractable pull cord means comprising: a first rotatable shaft; a pulley operatively connected to the first rotatable shaft for rotating the first rotatable shaft; a pull cord wrapped around the pulley for rotating the pulley and the first rotatable shaft when the pull cord is pulled away from the pulley; and means operatively connected to the first rotatable shaft for rewinding the pull cord when the pull cord is released;

- (b) a transmission including a second rotatable shaft and being operatively connected to the first rotatable shaft for rotating the second rotatable shaft when the first rotatable shaft rotates; the transmission further comprising shifting means adapted for positioning in first and second positions for converting single direction rotation of the first rotatable shaft into rotation of the second rotatable shaft in first and second different directions; and
- (c) means connecting the pull cord means to the shifting means and setting the transmission in said first and second positions in response to the pull cord being pulled in first and second <u>different</u> directions.

## 12 (original): The cover system of claim 11, wherein:

the transmission comprises: a first gear operatively mounted on the first rotatable shaft for rotating therewith in a first direction; a second gear meshed with the first gear for rotating in a second direction, opposite the first direction; a third, output gear; and wherein:

the shifting means of the transmission comprises fourth and fifth gears; a movable shaft mounting the fourth and fifth gears at spaced apart locations along said movable shaft with the fifth gear maintained meshed with the third, output gear; said

10/679,937

Art Unit:

Examiner:

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 9 of 11

movable shaft being mounted for arcuate movement between said first position, in which the fourth gear meshes with the first gear for rotating the fifth gear with the first gear and said second position, in which the fourth gear meshes with the second gear for rotating the fifth gear with the second gear; and wherein:

said connecting means operatively connects the pull cord means to said movable shaft for moving said movable shaft to said first and second positions.

13 (original): The cover system of claim 12, said connecting means further comprising first spring means comprising a first arm or section mounted proximate the shifting means for rotating movement; a second arm or section mounted proximate one end to and extending from the first arm and mounted proximate a second end to said movable shaft of the shifting means for moving said movable shaft between and to said first and second positions upon rotation of the first arm; and a third arm mounted to and extending from the first arm for rotating the first arm, thereby pivoting the second arm and moving the movable shaft between and to said two positions.

## 14 (original): The cover system of claim 11, wherein:

the transmission comprises: a first gear operatively mounted on the first rotatable shaft for rotating therewith in a first direction; a second gear meshed with the first gear for rotating in a second direction, opposite the first direction; and a third, output gear; and wherein:

the shifting means of the transmission comprises fourth and fifth gears; a movable shaft mounting the fourth and fifth gears at spaced apart locations along said movable shaft with the fifth gear maintained meshed with the third, output gear; said movable shaft being mounted for arcuate movement among and to said first position, in

10/679,937

Art Unit:

3634

Examiner:

positions.

10

11

12

13

14

15

16

1

2

3

4

5

. 6

7

8

9

10

11

12

13

14

Johnson, Blair M.

**AMENDMENT** 

Dated: 02 August 2006

Page: 10 of 11

which the fourth gear meshes with the first gear for rotating the fifth gear with the first gear, said second position, in which the fourth gear meshes with the second gear for rotating the fifth gear with the second gear, and a third, neutral position between said first and second positions in which the fourth gear is disengaged from the first and second gears; and wherein:

said connecting means operatively connects the pull cord means to said movable shaft for moving the movable shaft among and to said first, second and third

15 (original): The cover system of claim 14, said connecting further comprising:

first spring means comprising a first arm or section mounted proximate the shifting means for rotating movement; a second arm or section mounted proximate one end to and extending from the first arm and mounted proximate a second end to the movable shaft of the shifting means for moving the movable shaft among and to said three positions upon rotation of the first arm; and a third arm mounted to and extending from the first arm for rotating the first arm, thereby pivoting the second arm and moving said movable shaft among and to said three positions; and the third arm having an aperture therein receiving the pull cord in sliding engagement such that pulling the pull cord in first and second directions moves said movable shaft to said first and second positions; and

second spring means mounted proximate the first spring means and having a detent positioned such that when the pull cord is released, the detent releasably engages the first spring means and positions the first spring means in said neutral third position, and disengages from the first spring when the pull cord is pulled in the first or second direction.